# Mental Health Tracker

Enrollment no:154


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## INTRODUCTION

Discover the cutting-edge potential of facial emotion tracking in post-depression detection. By leveraging advanced algorithms and machine learning, this technology offers an objective and non-invasive approach to analyzing subtle facial expressions, providing clinicians with valuable insights into the emotional well-being of individuals. With its ability to offer continuous monitoring and personalized interventions, facial emotion tracking holds promise for revolutionizing the diagnosis and management of depression, ultimately leading to improved mental health outcomes and a brighter future for all.

## OVERVIEW

Facial emotion tracking is a revolutionary technology in mental health care, utilizing advanced algorithms to analyze facial expressions for post-depression detection. Offering continuous monitoring and personalized interventions, it promises improved diagnosis accuracy and treatment outcomes. This overview explores its principles, applications, and potential impact on shaping the future of mental health care.

## PROBLEM STATEMENT

To develop an artificial intelligence and machine learning based predictive model that can accurately predict post depression and identify the factors that contribute to predict the depression.

## OBJECTIVES

- Develop a robust facial emotion tracking system capable of accurately analyzing subtle facial expressions associated with post-depression.
- Validate the effectiveness of facial emotion tracking in improving the accuracy of post-depression detection compared to traditional subjective assessments.
- Investigate the potential for continuous monitoring and personalized interventions enabled by facial emotion tracking to enhance post-depression management and treatment outcomes.
- Explore the integration of facial emotion tracking into clinical practice, providing clinicians with accessible tools for objective evaluation and informed decision-making in post-depression care.

## MODELS USED

Convolutional Neural Network (CNN): A class of deep neural networks, commonly applied to analyzing visual imagery..

Pre-Trained Facial Expression Recognition Model: A pre-trained model for recognizing facial expressions, often based on deep learning architectures.

## LIMITATIONS

The problem lies in the need for objective and non-invasive tools like facial emotion tracking to accurately detect and manage post-depression, addressing the limitations of subjective evaluations and improving diagnosis and treatment outcomes.

## PROPOSED METHODOLOGY

Data Collection: Gather diverse facial expression datasets.
Preprocessing: Standardize and prepare images for analysis.
Model Development: Design and train a specialized CNN.
Evaluation: Assess model accuracy against benchmarks.
Integration: Incorporate the system into clinical workflows.
Validation: Conduct clinical studies to validate effectiveness.
Optimization: Continuously refine the system based on feedback.

## REFERENCES


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